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Janos Englander, Brian Rider

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3100 Marine Street, Room 481
572 UCB
Boulder, CO 80303 -1058

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14. ABSTRACT
The 36th Conference on Stochastic Processes and their Applications (SPA), was held July 29-August 2, 2013, at the University of Colorado Boulder. The meeting was organized under the auspices of the Bernoulli Society of the International Statistics Institute, and co-sponsored by the Institute of Mathematical Statistics.

The SPA conferences have emerged as the premier international forum for the dissemination of new results in probability and random (stochastic) processes. Save for 1980 and now once every four years when it is subsumed

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UU	UU	UU	UU		19b. TELEPHONE NUMBER: 303-492-6775

Report Title

Final Report: The 36th Conference on Stochastic Processes and their Applications

ABSTRACT

The 36th Conference on Stochastic Processes and their Applications (SPA), was held July 29-August 2, 2013, at the University of Colorado Boulder. The meeting was organized under the auspices of the Bernoulli Society of the International Statistics Institute, and co-sponsored by the Institute of Mathematical Statistics.

The SPA conferences have emerged as the premier international forum for the dissemination of new results in probability and random (stochastic) processes. Save for 1980 and now once every four years when it is subsumed by the larger scale Bernoulli World Congress (playing a similar role but with more statisticians attending), SPA has been held every summer since the founding 1971 meeting at the University of Rochester (NY). The international reach of SPA is evident by noting the locations of the four meetings prior to the Boulder one: Oaxaca, Mexico (2011), Osaka, Japan (2010), and Berlin, Germany (2009), along with the 8th World Congress in Istanbul, Turkey (2012). In fact, since 2000, SPA had been held only twice in the United States, prior to our meeting.

A distinguishing feature of SPA is its breadth. In selecting plenary lecturers, nearly as important as the degree of scholarship is the understanding that as many different areas of probability and stochastic processes as possible should be represented, with balance between theoretical and applied areas. This principle extends to include topics which are attractive to a general scientific community in fields other than mathematics. The list of plenary lecturers reflected the international nature of SPA and the probability community itself, bringing together distinguished scholars from all over the world, while maximizing age and gender diversity to provide visibility to women scientists and young researchers.

In connection to young researchers, SPA has particularly strong traditions. In addition to plenary lectures, the meetings are organized around a large number of short talks carried out in parallel sessions. The topics of a certain number of these sessions are predetermined (to highlight important areas), but the majority are contributed. This yields one of the main platforms for young probabilists (and affiliated researchers) to present their work alongside the top names in the field. To facilitate these important exchanges, obtaining travel support for Ph.D. students, postdocs, and new faculty enjoyed the highest priority.

The list of topics covered during SPA 2013 highlighted key areas of stochastic processes relevant to the methodologies on which national defense relies upon on a regular basis. From sensing to queuing to image processing to satellite communication, stochastic processes have played a key part in our understanding of these problems. Further, stochastic processes are crucial in understanding the properties of time evolution of complex systems, and to the predictions of their future behavior. Additional depth of topic at SPA 2013 is inspired by its setting. Involvement of researchers from various science and engineering departments on campus as well as those based in Boulder's four national labs (NCAR, NIST, NOAA, and NREL) drew attention to entirely new lines of application.

Enter List of papers submitted or published that acknowledge ARO support from the start of the project to the date of this printing. List the papers, including journal references, in the following categories:

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(b) Papers published in non-peer-reviewed journals (N/A for none)

Received Paper

TOTAL:

Number of Papers published in non peer-reviewed journals:

(c) Presentations

Number of Presentations: 0.00

Non Peer-Reviewed Conference Proceeding publications (other than abstracts):

Received Paper

TOTAL:

Number of Non Peer-Reviewed Conference Proceeding publications (other than abstracts):

Peer-Reviewed Conference Proceeding publications (other than abstracts):

Received Paper

TOTAL:

Number of Peer-Reviewed Conference Proceeding publications (other than abstracts):

(d) Manuscripts

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TOTAL:

Number of Manuscripts:

Books

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TOTAL:

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TOTAL:

Patents Submitted

Patents Awarded

Awards

Graduate Students

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NAME	PERCENT_SUPPORTED

FTE Equivalent:
Total Number:

Names of Faculty Supported

NAME	PERCENT_SUPPORTED

FTE Equivalent:
Total Number:

Names of Under Graduate students supported

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FTE Equivalent:
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Student Metrics

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Number of graduating undergraduates who achieved a 3.5 GPA to 4.0 (4.0 max scale):.....

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Names of Personnel receiving masters degrees

NAME

Total Number:

Names of personnel receiving PHDs

NAME

Total Number:

Names of other research staff

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FTE Equivalent:
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Sub Contractors (DD882)

Inventions (DD882)

Scientific Progress

The 36th Conference on Stochastic Processes and Their Applications (SPA), was held on the campus of the University of Colorado Boulder from July 29 to August 2, 2013.

Our conference, just like all SPA conferences in the past, covered a wide range of topics: random walks on graphs and groups, diffusion and stochastic partial differential equations, branching and superprocesses, mathematical physics, percolation, turbulence, queueing and stochastic networks, simulation and random algorithms, mathematical finance, computational biology, ecology, biostatistics, and so on.
It was equally important that the main current trends in the community as well as novel applications and newly breaking results were represented in the program. The conference was very well received among researchers and graduate students.

At SPA Boulder we had 300 participants, 45 funded junior (graduate student, postdoctoral fellow, early career professors) researchers, 18 plenary lectures and 48x3=144 short talks in parallel sessions. The website of the meeting is available at: http: //math.colorado.edu/spa2013/

In the scientific progress we can provide the following breakdown of how the funds ($14750) were used:

The Army grant funded the travel and accommodation of three plenary speakers:
Dr. Ken Golden (University of Utah), Dr. Vadim Kaimanovich (University of Ottawa, Canada) and Dr. Amadine Veber (Ecole Polytechnique, France), along with the following eight graduate students and postdocs from US institutions:
Kun Woo Kim (University of Utah), Yun Zhai (Wisconsin), Sancheyen Sen (NYU), Lingyun Li (Brown), Zsolt Pajor-Gyulai (Maryland), Laurence Field (University of Chicago), Hyunchul Park (UIUC) and Camelia Pop (Rutgers University)

The remainder of the ARO funds were used to produce the conference poster and program.

Besides the generous funding of the Army Research Office, the conference was sponsored by the NSF, the NSA, the Bernoulli Society, the Institute of Mathematical Statistics, the International Society for Bayesian Analysis, Elsevier, the Illinois Journal of Mathematics, the Office of Naval Research, Microsoft Research as well as four different grants from our university.

Technology Transfer